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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,830	03/04/2004	Hyun-Ki Park	P57015	4899
7590	12/14/2005		EXAMINER	
Robert E. Bushnell Suite 300 1522 K Street, N.W. Washington, DC 20005-1202			VAN, LUAN V	
			ART UNIT	PAPER NUMBER
			1753	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,830

Applicant(s)

PARK ET AL.

Examiner

Luan V. Van

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 18-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/9/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of 1-17 in the reply filed on 11/18/05 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim limitation of "metal plate" recited in claim 12 lacks antecedent basis. It is believed that the Applicant intended the limitation to be "metal foil". The claim is prosecuted on the assumption that the metal plate is the metal foil.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 6-13, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Shea.

Regarding claim 1, 8 and 11, Shea teaches a method for fabricating electrical conductors applicable for "electromagnetic protection" (column 1 lines 16-18), comprising the steps of preparing a metal plate 10 (figure 1-6) for plating; forming a photoresist layer 14 (figure 1) on an upper surface of the metal plate, the photoresist layer having a pattern 18 (figure 2b); forming a plating layer 20 (figure 3) on a remaining upper surface of the metal plate on which the photoresist layer is not formed; removing the photoresist layer (figure 4) from the metal plate; arranging an adhesive film 22 (figure 5-6) on the metal plate having the plating layer; adhering the adhesive film (column 3 lines 24-30) to an upper surface of the plating layer; and separating the adhesive film (figure 6) from the metal plate so that the plating layer is adhered to a lower surface of the adhesive film. With respect to claim 11, Shea teaches that a dielectric substrate can be used in place of the metal plate (column 3 lines 48-60), and that a conductive layer of nickel alloy (i.e., metal foil) is placed on top of the dielectric substrate. With respect to the preamble, "manufacturing an electromagnetic wave shielding filter" is an intended use of the instant invention and thus is not given patentability weight. The pattern 18 (figure 2b) is construed as a mesh pattern since it contains holes or apertures.

Regarding claim 2, 9 and 12, Shea teaches the metal plate comprises stainless steel/chromium- nickel alloy (column 2 lines 50-51).

Regarding claim 4 and 13, Shea teaches the plating layer comprises at least one of copper or silver (column 2 lines 55-56).

Regarding claim 6, 10 and 17, Shea teaches the adhesive film comprises a polymer film (column 3 lines 24-30).

Regarding claim 7 and 16, Shea teach the binding force of the plating layer to the adhesive film is stronger (column 2 lines 15-23) than a binding force of the plating layer to the substrate or the metal foil.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claims 1, 2, 4, 6-14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shea in view of Kiyama (EP 0963146 A1), assuming the pattern 18 of Shea is not a mesh pattern.

Regarding claim 1, 8 and 11, Shea teaches a method for fabricating electrical conductors applicable for "electromagnetic protection" (column 1 lines 16-18), comprising the steps of preparing a metal plate 10 (figure 1-6) for plating; forming a photoresist layer 14 (figure 1) on an upper surface of the metal plate, the photoresist layer having a pattern 18 (figure 2b); forming a plating layer 20 (figure 3) on a remaining upper surface of the metal plate on which the photoresist layer is not formed; removing the photoresist layer (figure 4) from the metal plate; arranging an adhesive film 22 (figure 5-6) on the metal plate having the plating layer; adhering the adhesive film (column 3 lines 24-30) to an upper surface of the plating layer; and separating the adhesive film (figure 6) from the metal plate so that the plating layer is adhered to a lower surface of the adhesive film. With respect to claim 11, Shea teaches that a dielectric substrate can be used in place of the metal plate (column 3 lines 48-60), and that a conductive layer of nickel alloy (i.e., metal foil) is placed on top of the dielectric substrate. With respect to the preamble, "manufacturing an electromagnetic wave shielding filter" is an intended use of the instant invention and thus is not given patentability weight.

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The difference between the reference to Shea and the instant claims is that the insulating layer of Shea does not have a mesh pattern.

Kiyama teaches a method of manufacturing an electromagnetic shield comprising the steps of electroplating copper on a photoresist mask having a mesh pattern (figure 1), and forming an electroplated layer having a mesh pattern (figure 2-3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Shea by using a mesh pattern of Kiyama for pattern 18, because using the mesh pattern would reduce electrical resistivity and increase transparency and electromagnetic wave shield properties (paragraph 25.)

Regarding claim 2, 9 and 12, Shea teaches the metal plate comprises stainless steel/chromium- nickel alloy (column 2 lines 50-51).

Regarding claim 4 and 13, Shea teaches the plating layer comprises at least one of copper or silver (column 2 lines 55-56).

Regarding claim 6, 10 and 17, Shea teaches the adhesive film comprises a polymer film (column 3 lines 24-30).

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Regarding claim 7 and 16, Shea teach the binding force of the plating layer to the adhesive film is stronger (column 2 lines 15-23) than a binding force of the plating layer to the substrate or the metal foil.

Regarding claim 14, Shea do not explicitly teach blackening the surface of the plating layer.

Kiyama teaches a method of manufacturing an electromagnetic shield comprising the steps of blackening the surface of the plating layer to improve the visibility (paragraph 31).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Shea by blackening the surface of the plating layer as taught by Kiyama, because it would improve the visibility of the display panel.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shea in view of Kiyama (EP 0963146 A1), and further in view of Cohen.

Shea and Kiyama teaches the method as described above in addressing claim(s)

1.

The difference between the references and the instant claims is that the references do not explicitly teach using an oxide insulating layer.

Cohen teaches filling patterned openings by electroplating using "an insulating mask such as an oxide, photoresist, or polyimide layer" in the fabrication of, for example, coils and other metallic structures of thin-film heads, metallic conductors in high density packages, and in MEMS devices (column 1 lines 25-38). Cohen teaches that oxide and photoresist masks are equivalent.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the combined method of Shea and Kiyama by using an oxide insulating layer of Cohen for the resist mask, because an oxide is a suitable and functionally equivalent insulating mask for electroplating.

Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shea in view of Kiyama (EP 0963146 A1), and further in view of Uriu et al..

Shea and Kiyama teaches the method as described above in addressing claim(s) 1 and 11.

The difference between the references and the instant claims is that the references do not explicitly teach using an adhesive film comprising of PET.

Uriu et al. teach using an adhesive film comprising of PET for peeling off a conductive pattern (column 8 lines 12-15).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the combined method of Shea and Kiyama by using PET film of Cohen, because a PET film is suitable dielectric substrate for peeling off an electroplated conductive pattern.

Conclusion

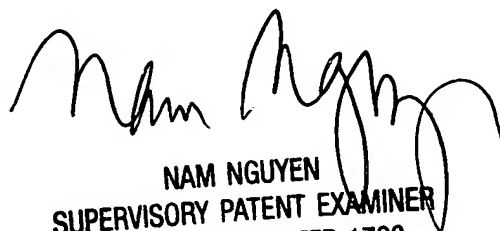
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan V. Van whose telephone number is 571-272-8521. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LVV
12/6/05



NAM NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700